

IN THE SPECIFICATION:

Please replace Table 2 beginning on page 17 and ending on page 17, with the following:

TABLE 2

| Steel No | Refining Conditions | | | Slab | Casting Conditions | Slab | Hot Rolling Conditions | | | | Cold Rolling Conditions | | Classification |
|-------------|------------------------------------|------------------|----------------------------|-------|-----------------------|------|--|-------------------------|--|---|----------------------------|------------------------|-------------------|
| | Secondary Refining Apparatus | D/D ₀ | FeO+ MnO (mass %) | | | | Number of cluster-type inclusions (number/10kg) | Throughput (Ton/min) | Number of spheroidal inclusions (number/10kg) | Hot rolling starting temp (°C) | Temperature Holding | Finishing temp (°C) | |
| 1a | RH | — | 8.0 | 8070 | 3.9 | 220 | 1120 | None | 920 | 680 | CAL | 810 | Present Invention |
| 1b | | | | | 5.7 | 860 | 1140 | None | 930 | 680 | CAL | 811 | Comparative |
| 1c | | | | | 3.9 | 220 | 1040 | Rough bar heater | 900 | 680 | CAL | 810 | Present Invention |
| 1d | | | | | 3.9 | 220 | 1040 | None | 850 | 680 | CAL | 810 | Comparative |
| 2a | RH | — | 3.5 | 4210 | 4.4 | 236 | 1100 | None | 930 | 580 | CGL | 830 | Present Invention |
| 2b | | | | | 4.4 | 236 | 1100 | None | 910 | 580 | BAF | 700 | Present Invention |
| 2c | | | | | 5.2 | 630 | 1100 | None | 930 | 580 | CGL | 830 | Comparative |
| 2d | | | | | 5.2 | 630 | 1100 | None | 930 | 580 | BAF | 710 | Comparative |
| 3a | RH | — | 18.0 | 38000 | 2.8 | 121 | 1080 | None | 900 | 610 | CAL | 800 | Comparative |
| 4a | RH | — | 5.5 | 8030 | 3.6 | 134 | 1090 | None | 900 | 610 | CAL | 800 | Comparative |
| 5a | RH | — | 14.0 | 14600 | 2.6 | 108 | 1160 | None | 890 | 710 | CGL | 820 | Present Invention |
| 5b | | | | | 2.6 | 108 | 1060 | Rough bar heater | 900 | 710 | CGL | 820 | Present Invention |
| 5c | | | | | 2.6 | 108 | 1060 | Rough bar heater | 900 | 400 | CGL | 820 | Comparative |
| 6a | RH | — | 3.0 | 310 | 5.4 | 32 | 880 | None | 880 | 650 | CAL | 780 | Comparative |
| 7a | RH | — | 12.0 | 13080 | 5.3 | 490 | 1120 | None | 920 | 650 | CGL | 800 | Comparative |
| 7b | | | | | 3 | 135 | 1100 | None | 920 | 650 | CGL | 800 | Comparative |
| 8a | RH | — | 22.0 | 56500 | 4.1 | 210 | 1050 | Rough bar heater | 950 | 700 | CGL | 820 | Comparative |
| 9a | Single-Tube Immersion pipe | 0.40 | 12.1 | 13100 | 4.2 | 280 | 1080 | None | 910 | 600 | CAL | 800 | Present Invention |
| 9b | | | | | 5.2 | 495 | 1080 | None | 910 | 600 | CAL | 800 | Comparative |
| 10a | Single-Tube Immersion pipe | 0.48 | 10.3 | 10800 | 3.0 | 158 | 980 | Rough bar heater | 900 | 560 | CGL | 800 | Comparative |
| 10b | | | | | 5.4 | 710 | 980 | Rough bar heater | 900 | 560 | CGL | 800 | Present Invention |
| 11a | Single-Tube Immersion pipe | 0.55 | 3.3 | 2600 | 2.5 | 140 | 1080 | None | 900 | 680 | CGA | 830 | Comparative |
| 11b | | | | | 5.6 | 750 | 1080 | None | 900 | 680 | CAL | 830 | Comparative |
| 12a | Single-Tube Immersion pipe | 0.62 | 3.3 | 2100 | 3.8 | 110 | 1040 | None | 920 | 650 | CGL | 830 | Present Invention |
| 12b | | | | | 5.2 | 530 | 1040 | None | 920 | 650 | CGL | 830 | Comparative |
| 13 | Single-Tube Immersion pipe | 0.71 | 3.1 | 1300 | 4.3 | 230 | 1060 | None | 900 | 560 | BAF | 700 | Present Invention |
| 13b | | | | | 5.7 | 770 | 1060 | None | 900 | 560 | BAF | 700 | Comparative |

Notes:

Rough bar heater: This was an apparatus for carrying out heating or a short period of temperature holding after rough rolling during hot rolling
 BAF: batch annealing CAF: continuous annealing CCL: continuous hot dip galvanizing

Please replace Table 3 beginning on page 18 and ending on page 18, with the following:

TABLE 3

| Steel No | Product Properties | | | | | | | | | | Classification |
|----------|---------------------------|-------------------------------|----------------------|-------------------------|-------------------------|--------|---------|-----------------------------|---------------------------|---|-------------------|
| | Type of Product | Number of observed inclusions | Sheet thickness (mm) | YP (N/mm ²) | TS (N/mm ²) | EL (%) | r-value | Rate of forming defects (%) | Cause of forming defects | | |
| 1a | Electroplated plate | 12 | 0.70 | 144 | 310 | 48 | 1.9 | 0 | — | ⊙ | Present Invention |
| 1b | Electroplated plate | 29 | 0.70 | 135 | 305 | 48 | 1.9 | 3.1** | pin holes | △ | Comparative |
| 1c | Cold Rolled plate | 8 | 0.65 | 135 | 308 | 47 | 2.0 | 0 | — | ⊙ | Present Invention |
| 1d | Cold Rolled plate | 11 | 0.65 | 122 | 267 | 41 | 1.2** | 23.0** | drawing cracks | ○ | Comparative |
| 2a | Molten-Metal-Coated plate | 7 | 0.75 | 126 | 297 | 50 | 2.0 | 0 | — | ⊙ | Present Invention |
| 2b | Cold Rolled plate | 3 | 0.90 | 153 | 317 | 45 | 1.7 | 0 | — | ⊙ | Present Invention |
| 2c | Molten-Metal-Coated plate | 38 | 0.75 | 131 | 301 | 49 | 2.0 | 7.2** | pin holes | △ | Comparative |
| 2d | Cold Rolled plate | 56 | 0.90 | 144 | 312 | 47 | 1.7 | 2.3** | pin holes | △ | Comparative |
| 3a | Cold Rolled plate | 131 | 0.70 | 210 | 353 | 42 | 1.7 | 12.0** | pin holes | △ | Comparative |
| 4a | Cold Rolled plate | 8 | 0.70 | 221 | 358 | 41 | 1.8 | 0 | — | ⊙ | Present Invention |
| 5a | Molten-Metal-Coated plate | 16 | 1.40 | 306 | 453 | 34 | 1.8 | 0 | — | ⊙ | Present Invention |
| 5b | Molten-Metal-Coated plate | 10 | 1.40 | 310 | 451 | 33 | 1.7 | 0 | — | ⊙ | Present Invention |
| 5c | Molten-Metal-Coated plate | 5 | 1.40 | 380 | 501 | 27 | 1.3** | 31.0** | drawing cracks | ○ | Comparative |
| 6a | Cold Rolled plate | 8 | 0.50 | 230 | 344 | 36 | 1.1** | 58.0** | drawing cracks | × | Comparative |
| 7a | Molten-Metal-Coated plate | 83 | 1.20 | 228 | 342 | 46 | 1.3** | 35.0** | pin holes, drawing cracks | × | Comparative |
| 7b | Molten-Metal-Coated plate | 13 | 1.20 | 231 | 338 | 47 | 1.3** | 24.0** | drawing cracks | × | Comparative |
| 8a | Molten-Metal-Coated plate | 77 | 1.60 | 398 | 520 | 27 | 1.2** | 85.0** | pin holes, drawing cracks | × | Comparative |
| 9a | Electroplated plate | 15 | 0.90 | 121 | 288 | 51 | 2.1 | 0 | — | ⊙ | Present Invention |
| 9b | Electroplated plate | 48 | 0.90 | 123 | 290 | 51 | 2.1 | 4.2** | pin holes | △ | Comparative |
| 10a | Molten-Metal-Coated plate | 13 | 0.65 | 133 | 296 | 49 | 2.0 | 0 | — | ⊙ | Present Invention |
| 10b | Molten-Metal-Coated plate | 88 | 0.65 | 131 | 298 | 50 | 2.0 | 4.5** | pin holes | △ | Comparative |
| 11a | Cold Rolled plate | 10 | 0.45 | 118 | 277 | 51 | 2.3 | 0 | — | ⊙ | Present Invention |
| 11b | Cold Rolled plate | 200 | 0.45 | 125 | 280 | 49 | 2.3 | 3.0** | pin holes | △ | Comparative |
| 12a | Molten-Metal-Coated plate | 7 | 0.65 | 133 | 308 | 50 | 2.2 | 0 | — | ⊙ | Present Invention |
| 12b | Molten-Metal-Coated plate | 75 | 0.65 | 132 | 305 | 51 | 2.3 | 2.5** | pin holes | △ | Comparative |
| 13a | Cold Rolled plate | 3 | 0.90 | 134 | 308 | 48 | 1.9 | 0 | — | ⊙ | Present Invention |
| 13b | Cold Rolled plate | 124 | 0.90 | 138 | 305 | 49 | 2.0 | 1.7** | pin holes | △ | Comparative |

Note: **: Did not satisfy target properties

Classification: Classification:

⊙ : Present invention, ○ : Unacceptable rolling conditions conditions, △ : Unacceptable steel manufacturing conditions manufacturing conditions.

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